

Cosmonauts' work continues amid minor problems

Astronaut Jerry Linenger passed the halfway point of his stay aboard the Mir Space Station last week as he and his Mir 23 crew mates continued their science investigations in and around some minor problems with the station's attitude control system.

Last Wednesday the primary angular rate sensor in the Spektr module on Mir failed ,which prompted the motion control system computer to switch automatically to a backup system. During this three minute hand over, the station's gyrodynes began maneuvering the station in all three axes. When the swap to the backup sensor was completed, the rotation of the station was beyond what the gyrodynes could compensate.

The crew switched off the attitude control system placing the station in what is called 'free drift' and then used onboard thruster

jets to stabilize its attitude. For most of the day Mir was in a stable attitude called gravity gradient. Because this attitude did not keep the solar arrays constantly pointed at the Sun to charge the onboard batteries, the crew turned off the gyrodynes and other equipment to conserve power. Late in the day flight controllers uplinked a new attitude maneuver to the motion control system computer and the crew restarted the gyrodynes.

With the primary angular rate sensor—called Omega—considered failed, a workaround is being considered that would have the crew reroute cables to another Omega in one of the other modules. Currently the station's attitude control is being managed by

the primary sensor on the backup unit, called ORT 1. By the end of last week, the station was back in its normal operating attitude, called an inertial attitude, which maneuvers the station's solar arrays to always point toward the Sun.

Components to bypass a suspected clogged filter in one of the oxygen-generating Electrons will be shipped to Mir aboard the Progress resupply vehicle, scheduled to launch April 6. This workaround will partially restore the use of the Electron unit, which normally uses the process of electrolysis to separate oxygen out of the onboard processed waste water and return it to the cabin air. The solid fuel oxygen generators

will continue to be used to supplement the Electron even after the Progress arrives.

Progress also will deliver 60 additional candle-type oxygen-generators to Mir. On average, the crew is burning three candles per day to maintain acceptable oxygen levels aboard the station.

The space walk by Linenger and Mir 23 Commander Vasily Tsibliev remains scheduled for mid to late April. They will wear newly designed spacesuits also stored aboard the Progress resupply vessel.

While life continues aboard Mir, Foale is nearing completion of training in Russia and will return to the U.S. in early April for the final weeks of training prior to the STS-84 launch. Astronauts Wendy Lawrence, Jim Voss, Dave Wolf and Andy Thomas left Star City last week for survival training in Siberia.



Co-ops bring dreams to JSC

This is the final article on the women of JSC for Women's History Month.

The young women in JSC's co-op program recently told the Federal Woman's Program Manager they want to go places and that their itinerary includes stops at NASA, the International Space Station, the Moon and Mars.

"They understand that the way to get there is through their own determination, dedication, hard work, education and dreams for a future which seems bright and limitless," said Federal Program Manager Jessie Hendrick.

Nine of the 11 current co-ops sat down during Women's History Month and spoke to Hendrick about why they chose engineering and NASA. Of those nine, eight are determined to enter the astronaut corps.



JSC's current female co-ops bring to JSC determination, dedication, hard work, education and dreams for a future that seems bright and limitless. Back row from left are Theresa Debban, Christie Nance, Loretta McDonald, Laura Eadie and Tara Angstadt. Seated from left are Whitney Knudson, Larissa Smit, Jennifer Jones and Jennifer Grubber. Not pictured are Barbara Williams and Amy Fischer.

"I'm a space nut," declares Jennifer Gruber, who is working on a dual BS/MS program in aeronautical engineering at Boston University. She said she was inspired to pursue a career at NASA after seeing the movie "The Right Stuff" with her parents. She told them that she wanted to be an astronaut and they did not discourage her.

Laura Eadie, a mechanical engineering major at Purdue said after attending space camp in high school she made plans to become an astronaut.

"I went to Purdue because that is where so many of the astronauts come from, with the intention to co-op with NASA," Eadie said. She is currently working in an aback room of Mission Control and enjoying every minute.

Living in the environment of space inspired co-ops Amy Fischer, Christie Nance and Tara Angstadt to become part of the program.

"Dad was in the Air Force, so I've grown up in the environment,"

Fischer said. "NASA is a huge, cool place and I've always wanted to come here." Fischer is an aeronautical engineering student at the University of Michigan currently working on parafoil technology for the X-38.

"This would be my dream job and I went for it," said Nance, an aerospace engineering major at Georgia Institute of Technology and working in payloads.

"I chose mechanical engineering because there are more options in what I can do," said Angstadt, a mechanical engineering major at Texas A&M University. "NASA was my dream. I got several co-op offers, but here was where my heart was."

Larissa Smit, a mechanical engineering and math major at Southern Methodist University, was encouraged to apply at JSC by the co-op director at the university. During her co-op tour, Smit helped develop the wall coverings in the chamber for the Advanced Life Support Program Test Project.

Jennifer Jones, an aeronautical and astronautical engineering major

at the University of Illinois said working as a JSC co-op is a great opportunity because the co-ops get to do real work.

"I've always liked the math and sciences," Jones said. "Space is the new frontier, there's so much that is unexplored."

JSC co-ops also look toward the future and hope to return after completing their education.

"When I interviewed with NASA, I thought 'Wow' I could make things happen and be part of the big picture and help to change the way people live," said Loretta McDonald, a recent graduate from Purdue with a degree in computer and electrical engineering. "I'm happy to say that I will be working here permanently. I never dreamed that could happen."

"Whether they work at NASA or at an aerospace company, these young women, with their dreams and ambitions, will be a part of creating the future of our nation's space program," Hendricks said. "Their vision and work will become a part of space history."

International travelers now have medical help

Employees traveling to foreign countries now have access to a new program for assistance in dealing with a variety of situations.

NASA gives employees the opportunity to access the services of International SOS Assistance Inc., that provides medical, personal and travel assistance.

"SOS is a 24-hour, 365-day-a-year program," said Lynn Hogan of JSC's Clinic. "NASA has provided employees with another tool to make travel less stressful."

Medical assistance ranges from sending a doctor to an employee's location to conducting emergency evacuation to hospitals, Hogan said. Medical services cover everything from pre-trip medical referral information to emergency services while

abroad. Personal assistance ranges from helping employees replace lost documents to legal access. Travel assistance covers a broad range of situations employees can encounter while incapacitated due to a medical condition.

Hogan will hold briefings next week to explain the SOS program. Briefings will be held at 9, 10:15 and 11:15 a.m. Monday in the Bldg. 30 Auditorium. Briefings are open to all JSC civil service and contractor employees who are sent by NASA on official international travel anywhere in the world.

Before traveling, employees must receive an access card in order to use the SOS services. To obtain an access card and for more information on SOS call Hogan at x37790.



Earth Day moves to Gilruth

Activities for JSC's Earth Day celebration on April 22 keep growing so organizers have move the celebration to the Gilruth Center.

To kick off this year's event, the Houston Federal Executive Board is sponsoring a 5K fun run and 2K walk at 9 a.m. April 19 at JSC. The event is open to all federal and contractor employees and their families. The cost is \$6 and includes a T-shirt, music, astronaut autographs, snacks, beverages and door prizes. Registration forms are available by calling Jo Kines at x33218 and must be postmarked no later than April 2.

During the Earth Day celebration on April 22, KTRH radio will broadcast the KTRH Garden Line live from 10 a.m. - noon at JSC. Employees are encouraged to bring all of their gardening questions and concerns. In addition, an original art coloring contest is planned. Contact Dawn Fadner at x37243 for a copy of the coloring page. Entries must be submitted by April 18 and will be displayed at the Earth Day event.

Model solar cars will be displayed and plans are forming for races. The Roundup will publish race times.

Workshops, exhibits, free prizes and give-aways once again are being planned for this year. Exhibitors include; Sierra Club, Bicycling Club, Galveston Bay Estuary Program, Canoe Club and Houston Museum of Natural Science. Workshops on Birds of the Texas Coast, Air Quality in the Houston Area and Environmentally Designed Homes will be presented each hour from 11 a.m.-2 p.m. during the event. A complete listing of the times and locations will be published in the April 11 edition of the Roundup. Employees also are reminded to get Earth Day photographs to Melissa McKinnley, Bldg. 445, Rm. 750, x33127, by noon April 18. Prizes will be awarded for the best photos. Earth Day volunteers are still needed and employees may contact Kines for more information.

Signs assist during evacuation

By Mary Peterson

JSC's Occupational Safety Office has established areas of rescue assistance for employees needing help to exit buildings during emergencies.

"New signs were recently installed in JSC buildings indicating locations where employees requiring evacuation assistance can be accommodated," said Stacey Nakamura, chief of the Health, Safety and Environmental Compliance Office. "These Areas of Rescue Assistance, or ARAs, are being included into evacuation plans for each building and ensures that assistance is provided."

An employee who requires assistance is someone who cannot exit the building via the staircase. Employees in wheelchairs, on crutches, who use walkers, who are hearing or visually impaired, pregnant, who have heart/lung conditions, or any disabilities that hinder mobility should notify their supervisor that they require assistance in exiting during emergencies.

During an actual emergency, personnel will initiate the rescue all employees at the primary ARA's of all floors below the fire floor via elevator. Stairs will be used to rescue employees on the fire floor and above unless the danger on the fire floor is under control and cannot affect elevator evacuation. No evacuation will be done in the event of a false alarm, malfunctioning alarm system or other non-emergency situations, Nakamura said; but anyone waiting for rescue assistance will be notified of the condition before the emergency is terminated.

"Elevators may be used only if emergency personnel accompany the employee," Nakamura said. "The elevator will be checked for safe operation to be sure there is no danger of being trapped and risking suffocation. If the elevator is unsafe, employees requiring evacuation assistance will be evacuated manually."

Should an employee visit another building and hear an alarm, that

employee should evacuate to the primary ARA and ask someone to be their "buddy." If a buddy is not available, the floor fire warden should be notified that assistance is needed.

Nakamura added that in the event an employee requiring evacuation assistance is working off-hours and the alarm sounds, that person should go to the primary ARA, and while in route, activate a fire alarm pull box or call x33333 to bring emergency personnel to that floor.

Supervisors should know which employees cannot perform a routine evacuation, Nakamura said. Those employees, in turn, should be schooled in proper evacuation procedures, as well as having a "buddy" assigned to see that safe evacuation is accomplished.

For more information, including details on the responsibilities of fire wardens and supervisory personnel, contact Tracy Fergusson of the Occupational Safety Office, mail code NA3, or call x33548.

Roundup returns in April

Today's issue of the Space News Roundup will be the last time employees receive a weekly paper.

The new Roundup will return on April 11 as an eight-page publication sporting a "new" nameplate. The Public Affairs Office will continue to keep employees up-to-date on breaking space program news by way of the Daily Cyber Space Roundup.

With publication scheduled for every other Friday, deadlines will be Friday, three weeks before publication.

An easy way to remember this deadline is that it falls on the Friday the Roundup is not published. For example, if a club would like to post a meeting notice April 25, it must submit the information to Managing Editor Karen Schmidt at Bldg. 2 Rm. 181 or e-mail at kscheidt@gp301.jsc.nasa.gov by close of business April 4. Items that must meet this deadline include Dates and Data submissions, contractor and employee news and other items of interest to the JSC community.

Employees tour 'Triple 7'

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made his first trip to Houston to meet the teams that are working on the International Space Station and Space Shuttle Programs.

"There are a lot of similarities in what we have done here and the space station," Mulally said. "All the people at NASA ought to feel a tremendous sense of pride when you look at the Triple 7. The technol-

ogy that went into the Triple 7, we did together. All of this technology was led, sponsored and nurtured by NASA. This is just another dynamite result that shows what happens when NASA and industry work together."

Employees toured the 440 passenger airplane that weighs 580,000 pounds and has a wingspan of more than 199 feet.